

CLAIM AMENDMENTS

This listing of claims will replace all prior versions and listings of claims in the application.

1 1. (Currently Amended) An apparatus ~~for detecting that detects~~ voice activity in
2 a communication signal, said apparatus comprising:

3 ~~a)~~ filter means for performing an estimation or a suppression of an offset
4 component of ~~the a~~ level of said communication signal;

5 ~~b)~~ parameter control means ~~(46)~~ for controlling a filter parameter of said
6 filter means based on an output of said filter means; and

7 ~~e)~~ limitation means ~~(16; 35, 39)~~ for limiting said suppression or said
8 estimation of said offset component in response to said output of said filter means,

9 wherein said filter means comprises a notch-type filter with a notch at zero
10 frequency, and

11 said limitation means comprises a non-linear element with a limitation
12 characteristic for suppressing transmission of negative signals through a recursive
13 path of said notch-type filter.

1 2. (Currently Amended) An apparatus according to claim 1, further comprising:
2 level calculation means ~~(42)~~ for calculating a short-term level of said
3 communication signal, and

4 | voice activity control means ~~(48)~~ for comparing input and output levels of said
5 | filter means.

1 | 3. (Original) An apparatus according to claim 1,
2 | wherein said offset component is a noise floor component of the level of said
3 | communication signal.

1 | 4. (Canceled).

1 | 5. (Currently Amended) An apparatus according to claim 1,
2 | wherein said filter means comprises a low-pass filter for extracting said offset
3 | component, and said limitation means ~~(35, 39)~~ comprises:
4 | comparing means ~~(39)~~ for comparing said extracted offset component
5 | with said communication signal and
6 | switching means ~~(35)~~ for selecting one of said extracted offset
7 | component and said communication signal in response to an output of said
8 | comparing means ~~(39)~~.

1 | 6. (Currently Amended) An apparatus according to claim 1,
2 | wherein said parameter control means ~~(46) are is~~ adapted to set said filter
3 | parameter to a first value which leads to a lower tracking speed of said estimation,

4 | ~~if-when~~ the level of said communication signal falls below ~~the-a~~ level of said
5 | estimated offset component, and to set said filter parameter to a second value which
6 | leads to a higher tracking speed of said estimation, ~~if-when~~ the level of said
7 | communication signal is higher than the level of said estimated offset component.

1 | 7. (Currently Amended) An apparatus according to claim 6,
2 | wherein said parameter control means ~~(46)~~ is adapted to apply an
3 | exponential adaptation of said filter parameter within ~~the-a~~ limitation of
4 | predetermined parameter values.

1 | 8. (Currently Amended) A method of detecting voice activity in a communication
2 | signal, said method comprising ~~the steps of~~:

- 3 | ~~a)~~ filtering an offset component of ~~the-a~~ level of said communication signal;
4 | ~~b)~~ controlling a filter parameter used in said filtering ~~step~~, based on ~~the-a~~
5 | result of said filtering step; and
6 | ~~c)~~ limiting said filtering ~~step~~ in response to the result of said filtering ~~step~~,
7 | wherein said filtering is adapted to suppress said offset component by
8 | applying a filter characteristic with a notch at zero frequency, and
9 | said limiting is performed by applying a limitation characteristic for
10 | suppressing transmission of negative signals.

1 | 9. (Canceled).

1 | 10. (Currently Amended) A method according to claim 8,
2 | wherein said filtering ~~step~~ is adapted to extract said offset component, and
3 | said ~~limitation step-limiting further~~ comprises: ~~the steps of~~
4 | comparing the extracted offset component with the level of said
5 | communication signal and
6 | selecting one of said extracted offset component and said level of said
7 | communication signal in response to ~~the a~~ comparing result.